



2015
SUSTAINABILITY
REPORT

The Continued Sustainable Vision Of Deltec Homes

For the years that we've been publishing our annual sustainability report, we've identified three main sustainability goals:

Energy Impact. We have been operating with 100% renewable energy since 2007, but using renewable energy and using *less* energy are two different things. We are lucky enough as a business to own our own facility. Unfortunately, like many old buildings, our facility is...well-used. A stellar example of a super-insulated, air-tight building envelope like we ship to our customers, it is most decidedly not. In 2015, we were able to devote some capital to improving it, with a newly insulated roof and a long-awaited upgrade to our fluorescent lighting. This has helped us drop our energy use.

Waste Diversion Efforts. We try to reduce waste in production, and take what waste we do produce and find ways to reuse or recycle it, avoiding the landfill. With building materials in particular, this is not always easy. Recycling markets for some materials are constantly changing and recycling markets for more complex, dense materials that often go into buildings are limited. Our partnerships with other local businesses and Habitat for Humanity's Re-Store have continued to help us maintain a high level of waste diversion—over 78% of waste material in 2015.

Energy Efficient Products. Our biggest goal—we really see it as our passion—is in the quality of the product we craft. Homes that are resilient enough to stand up to the strongest storms. Homes that drastically reduce energy use. On this front, we have always excelled—but the market is changing. Energy efficient residences are becoming more recognized and valued across the country. Building energy codes are catching up, becoming stricter. This has enabled us to deliver products to help clients meet their needs when locally available products might not have. But it also means a sea of change is coming to the residential market, and we will be ready, to continue to not only meet energy requirements, but exceed them. See pages 6-9 for case studies on highlighted projects from this year.

We can't continue toward these goals without the help of our customers, of course. Your demands keep us oriented. And of course, your patronage helps pay the bills to make all of this possible. So to you, a big thanks!

Cheers,



Leigha Dickens
Green Building & Sustainability Manager
Deltec Homes

2015 by the Numbers

66

Megawatt hours of electricity produced by our rooftop solar array



Megawatt hours of wind power purchased for use in our operations:

328

78%

of our waste material was diverted from the landfill and into local recycling and re-use efforts, such as Habitat for Humanity

81%

of Deltec homes were built to reduce energy use compared to typical new construction by at least **30%**



percentage of Deltecs that used solar energy, such as a solar hot water system or solar electricity system:

18%

55

the average HERS Score of all Deltec homes on which a HERS score was finalized (check the next page to learn more about HERS)

554

Megawatt hours of electricity saved due to the energy efficiency features built into our homes, the equivalent of planting **816** trees



lighting kilowatt hours saved in our facility: **25,000**

100%

of Deltec homes included at least one energy efficiency feature that went above and beyond the standard for the building industry

spotlight on

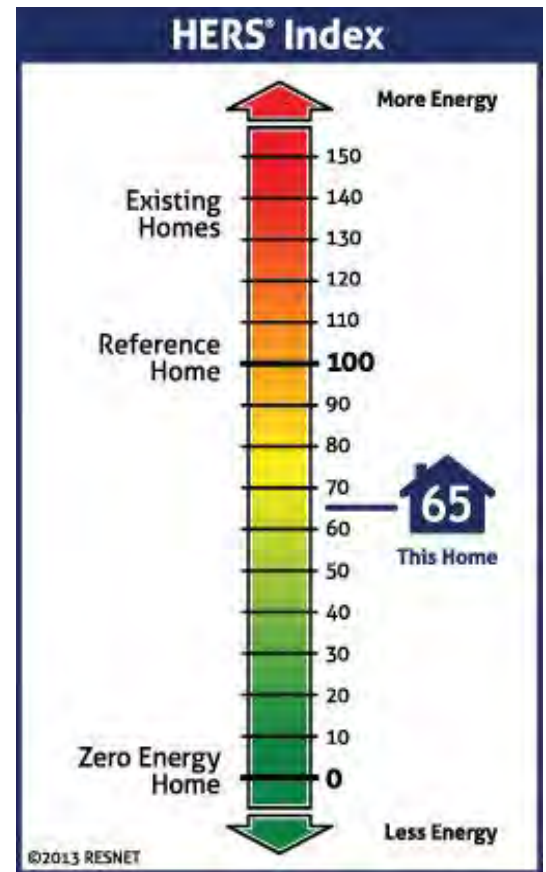
THE HERS INDEX

Trusted by the home mortgage industry and administered by a group of energy efficiency professionals, the *HERS (Home Energy Rating System) Index* is a national tool used to score how energy efficient a home really is...or isn't. It's like a "miles per gallon" rating for a home, helping you evaluate, before you buy, how efficient your home will be, compared to other homes like it.

How Does the HERS Index Work?

The HERS Index is a scale, from 0 to 100+. A score of 100 represents the energy efficiency of typical new construction in the US, which we all know can leave much to be desired, while a score of 0 represents a home that has net-zero energy bills due to a combination of energy efficient features and on-site renewable energy generation. The lower your score on this scale, the less energy your home uses, and the lower your energy bills.

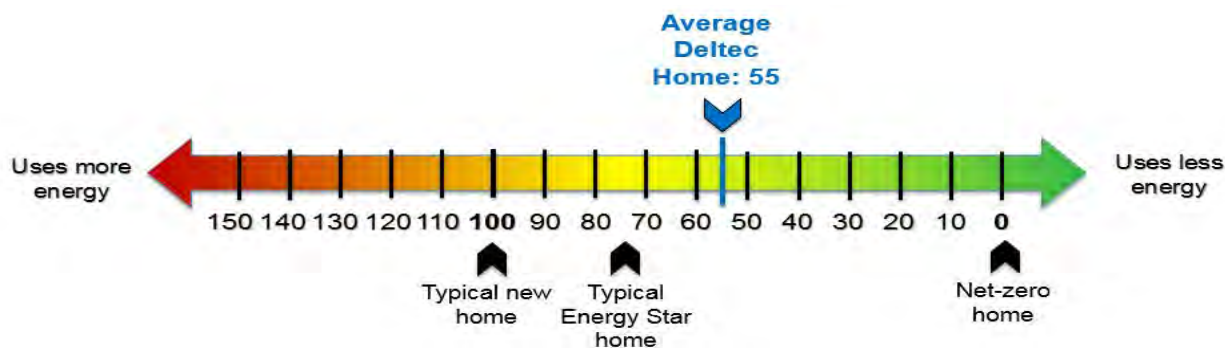
A certified HERS Rater generates this score for a home using computer energy modeling and field data about the home's energy use. Items such as insulation values, HVAC system and appliance efficiencies, even building shape, go into the mathematics that produce this score.



The HERS Index is a national tool, much like a "miles per gallon" rating on a car, enabling consumers to compare home energy efficiency.

How Do Deltec Homes Compare?

As of the end of 2015, the current average score of completed Deltec Homes that had been HERS rated is a 55, while the average of both confirmed and projected HERS scores of Deltec Homes (including homes that are currently under construction and have been preliminarily evaluated under this program but not yet finalized) is a 47. Every one of our houses is different and based on client desires, so the final score for any home depends a great deal on the options and technologies our clients choose to put into their homes. But the bottom line is, our super-insulated and air-tight shell package make building a high performance home easy.



What is the Value of a Low HERS Score?

A HERS score of 47 means that the home is approximately 53% more energy efficient than a typical new home, and most likely, beats the efficiency of an existing home by an even greater percentage. There are numerous reasons to have a HERS Score done on your Deltec home as part of your build process. As a nationally recognized program, the HERS index protects your investment by offering tangible proof of the energy efficiency. A projected HERS rating off of your Deltec plans can help greatly with financing because it quantifies the value and shows actual dollars saved for energy efficiency investments. Further, all HERS-rated homes go into a database of energy efficient homes, available for lenders and appraisers to help them find homes with comparable energy efficient features.

The HERS Index is administered by RESNET, a non-profit organization dedicated to helping homeowners reduce energy bills. Learn more: www.hersindex.com



case studies

RENEW COLLECTION

Renewing what home performance means, these clients chose one of our pre-designed Renew Collection floor plans, with proven energy efficiency strategies built into the design, to build the high performance home of their dreams.

ANNE G. and MARIE F.

The House: Rhododendron model on a basement in rural Tennessee, 2195 conditioned square feet.

The Story: Anne and Marie had family land in Tennessee, and their long-term goal was to move back home from busy Seattle. In the process, they wanted to build their home *differently*. They wanted it to last for generations after them. They wanted to dramatically reduce their energy footprint. They wanted people they could trust to help them navigate the different choices, materials, and designs that must be contemplated when building a new home. They were passionate about bringing green building to a rural area where some of the building methods for energy efficient construction and healthy indoor air might be new. They used the EPA ENERGY STAR for Homes and Indoor Air Plus certifications, with the help of a local HERS Rater, to help guide their building decisions.

The Technical Stuff: Deltec Energy Wall (R24), raised heel truss (R60), Superior Wall basement, (R24) Sun Bandit PV based solar hot water system, mini-split heat pump and AC system, mechanical fresh air ventilation system, “sun-tempered” design with south-facing windows appropriately shaded.

Projected HERS Score: 49

Projected Yearly Energy Costs: \$973

Projected Yearly Energy Savings (compared to typical new construction): \$711



“Green building is a win for the homeowner, the planet in aggregate, and for a new generation of builders who will be able to construct houses that better meet future energy challenges.”

-Anne G.



“I’m very interested in energy efficient building and we always wanted to build a net-zero home. Deltec was very helpful and gave us great suggestions we might not have thought of otherwise.” -Rick W.

Rick & Maureen W.

The House: Ridgeline B model in North Carolina, 1604 square feet.

The Story: Rick and Maureen turned to Deltec, a company in their own backyard, to help them build the green home of their dreams. Having fallen in love with the Ridgeline design—created for Deltec Homes by a local architect who modeled it after his personal net-zero home—Rick used the Deltec Home kit to help him actualize his goal of being his own contractor and building his green home at his pace, and exactly his way. Local green certification through ENERGY STAR for Homes, combined with help from Deltec’s green building department, helped him augment his carpentry skills with the best green building practices.

The Technical Stuff: Deltec Energy Wall with custom window package featuring high heat gain windows on the south as part of a passive solar design strategy, high efficiency conventionally-ducted HVAC system, R30 spray foam in the roof, R19 fiberglass batts for R24 total in the walls, sealed and insulated crawlspace, heat pump water heater. Pre-stained siding.

Projected HERS Score: 53

Projected Yearly Energy Costs: \$1044

Projected Yearly Energy Savings: \$834

Why “Projected?” HERS scores cannot be issued until construction is complete and the finished home has been inspected by a HERS Rater. Many details of how a house is constructed are up to a builder and not under Deltec’s control, so final HERS scores may vary from estimated scores during design. Projected values are used for projects that, as of this publication, are under construction but not yet completed, based on the construction specifications.



case studies

CLASSIC DELTEC

A fully custom round home—or even a custom round commercial structure—was just the right solution for these clients’ specific needs.

DREAMING THEIR PASSIVE SOLAR DREAMS

The Story: Jim and Gail of Abingdon, VA grew up as environmentalists, and readers of Mother Earth News—which is where they found Deltec. They wanted to build a home that incorporated the oldest, yet most effective green technologies: passive solar design. They used the Deltec Homes’ Crescent Chalet Sweep design to get maximum window surface area on the south side of the house, while also allowing an incredibly open floorplan.

Deltec’s Green Building and Sustainability Manager worked with them extensively on the passive solar aspects of the design: adjusting window glass, overhang lengths and thermal storage potential of their concrete slab to perfection. Now the home, currently under construction, is designed to hardly even need a heating system in the winter at all.

The Technical Stuff: Deltec Energy Wall with spray foam insulation (R30); sealed, conditioned attic with spray foam insulation (R42); Superior Wall basement, (R24); R10 underslab insulation. Exposed, stained concrete floors on both levels for thermal mass. High efficiency, multi-stage heat pump and AC system with mechanical fresh air ventilation, topped off with a 7 kilowatt solar electric array.

The Design: A Crescent Chalet is a Deltec round home, stretched into an oval. A Crescent Chalet Sweep is a Crescent Chalet with swept ends, creating a long south-facing side that is perfect for a highly passive solar design.



Residential Cost, Commercial Performance: The French Broad River Academy builds the largest Deltec Structure Yet



“With Deltec, we got a locally made product, engineered to be of higher strength compared to other framing options...at a price point per square foot that a school can afford, put together in a sustainable facility, with long-term sustainability and energy saving factors.”

-Robert T, project architect.

The Story: French Broad River Academy was an exciting new commercial project for Deltec Homes. Finished in late 2015, the school consists of two large oval structures, the biggest Deltec has ever manufactured. The school is an experiential education based facility for 6th, 7th, and 8th grade boys. Sustainability is core to the school’s curriculum, and using Deltec Homes, the school was built with low-waste panelized manufacturing. The school sits on a revitalized brownfield site on the French Broad River, a proximity that informs all aspects of the curriculum, as students use the river to study natural science and experience the outdoors.

The Technical Stuff: One 3000 square foot and one 5000 square foot oval structure, following a super-insulation strategy with R43 foam in the roof, R38 in the floor, R28 walls, quality materials, and a planned solar array to provide a portion of the school’s power.



social and environmental responsibility

CERTIFICATION



We're proud to be the first prefabricated homebuilding company to achieve B Corp Certification. The prestigious certification is given to companies who meet the highest standards of verified social and environmental performance, public transparency, and legal accountability, and use the power of business to solve social and environmental problems. In order to become certified, we had to meet stringent performance requirements conducted by B Lab, the nonprofit that certifies and supports B Corporations, and must be reevaluated every two years. In addition, unlike traditional corporations, Certified B Corporations are legally required to consider the impact of their decisions on their employees, suppliers, community, consumers and the environment.

A community is only as strong as we make it, and in order for a community to thrive, it is critical that its inhabitants earn enough money to be self-sustaining members. We are proud to have passed the rigorous application process and be recognized as **Living Wage Certified**, official recognition of our efforts to promote a just and sustainable local economy through the Living Wage Certified program of Just Economics in Western North Carolina, the largest program of its kind in the United States.

local community GIVING BACK

Wild South

For the third year in a row, Deltec has partnered with Wild South, a local organization dedicated to protecting wild spaces in the southeast, to sponsor their annual Green Gala gathering and award show honoring local environmental educators and champions.



Habitat for Humanity

Deltec donates scrap plywood, R5 thermal shield foam, siding, and other usable building materials as they accumulate to the local Habitat for Humanity Restore, where local residents can purchase supplies for their own projects, with proceeds going to supporting Habitat for Humanity's local building programs.



Meals on Wheels

Our commitment to enabling homeowners to retain their independence and remain living in their homes for as long as possible remains constant. Twice a week, Deltec employees spend a paid hour making deliveries for Meals on Wheels to the elderly and infirm in 'our' neighborhood.



Scholarship Funds

Established in 2007, the Deltec Homes Endowed Scholarship is awarded yearly to one student in the Construction Management program at the Asheville Buncombe Community College.

In 2015, Deltec also contributed to UNC Asheville's Family Business Endowed Scholarship, a fund supported by local family businesses that helps support one full-time student at UNC Asheville.

Asheville Humane Society

This Christmas, Deltec staff gathered blankets, detergents, toys, and other needed supplies to support the local humane society animal shelter.



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